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10/082,135

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Hideaki Tsushima

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EXAMINER

SONG, SARAH U

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/082,135

Applicant(s)

TSUSHIMA ET AL.

Examiner

Sarah Song

Art Unit

2874

pr

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9,12,15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9,12,15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's communication filed on September 15, 2004 has been carefully studied by the Examiner. The arguments advanced therein, considered together with the amendments made to the claims, are persuasive and the rejections based upon prior art made of record in the previous Office Action are withdrawn. Claims 1-6, 9, 12, 15 and 16 have been amended. Claims 10, 11, 13 and 14 have been canceled. Claims 1-9, 12, 15 and 16 are pending.
2. The indicated allowability of claims 2, 4, 6, 8, 15 and 16 are withdrawn in view of the newly discovered reference(s) to Ibukuro et al. (U.S. Patent Application Publication 2004/0151499). Rejections based on the newly cited reference(s) follow.

Claim Objections

3. Claim 2 is objected to because of the following informalities: in line 8, Examiner suggests changing "at least one switch optical" to –at least one optical switch–. Appropriate correction is required.
4. Claim 12 is objected to because of the following informalities: in line 3 of page 14 of the amendment, Examiner suggests inserting a comma – , – after "output". Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

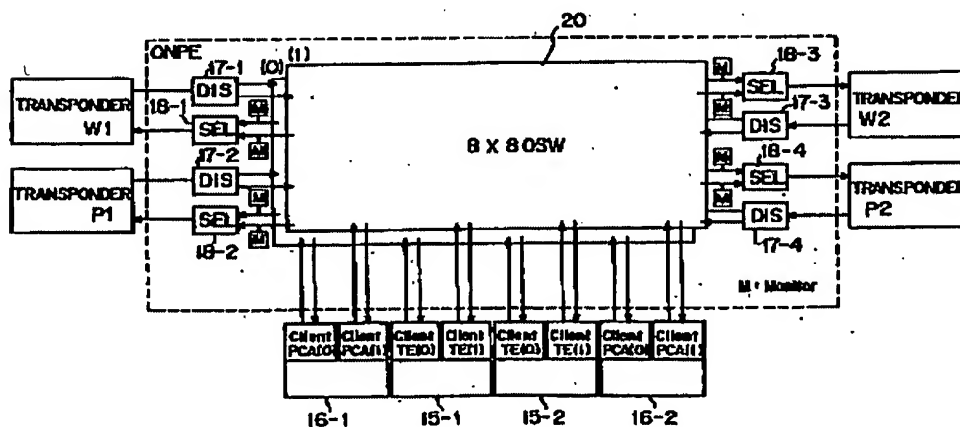
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2874

6. **Claims 1-9, 12 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Ibukuro et al. (U.S. Patent Application Publication 2004/0151499).**

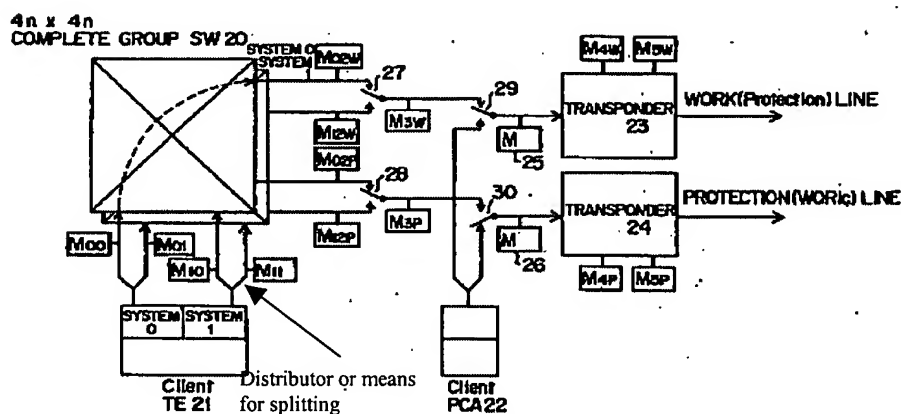
7. Regarding claim 1, Ibukuro et al. discloses an optical switching equipment ONPE for switching a route of an optical signal received from any one of a plurality of optical transmission routes and outputting said optical signal to any one of a plurality of optical transmission routes (see abstract), comprising:

- first interfaces for transmitting or receiving the optical signals to or from another switching equipment through a plurality of first optical transmission routes (traveling east/west);
- second interfaces for transmitting or receiving optical signals to or from a communicating equipment (e.g. 15-1) connected to said optical switching equipment through a plurality of second optical transmission routes;
- at least one optical switch 20 for providing a route of each of said optical signals between said first interfaces or between one of said first interfaces and one of said second interfaces; and

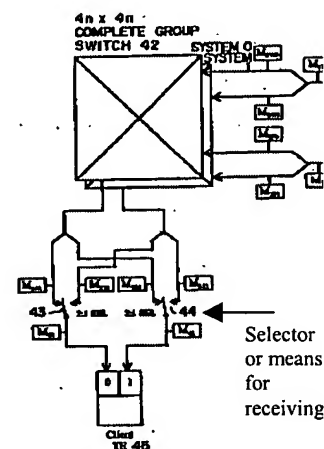


Art Unit: 2874

- a control circuit (not shown; see Paragraph [0126] and [0150]) for setting the route of said each optical signal inside said at least one optical switch; wherein:
- each of said second interfaces at an optical signal receiving side includes means for splitting an optical signal received from a second optical transmission route into a plurality of optical signals,
- said control circuit controls said optical switch to assign different routes to the split optical signals so as to output the split optical signals to different first optical transmission routes, respectively, and



- each of said second interfaces at an optical signal transmission side includes means for receiving plural optical signals from different first optical transmission routes via the optical switch and selecting one optical signal to output to a respective second optical transmission route.



8. Regarding claim 2, Ibukuro et al. discloses an optical switching equipment for switching a route of an optical signal received from any one of a plurality of optical transmission routes

Art Unit: 2874

and outputting said signal to any one of a plurality of optical transmission routes (see Abstract), comprising:

- a plurality of optical receivers (transponders) for receiving optical signals from a plurality of first optical transmission routes;
- a plurality of optical distributors (i.e. means for splitting) for receiving optical signals from a plurality of second optical transmission routes and distributing said received signals as a plurality of optical signals;
- at least one optical switch 20 provided with a plurality of input and output terminals respectively and for switchably outputting any of the optical signals received from said optical receivers and said optical distributors at any one of said plurality of input terminals to any one of said plurality of output terminals;
- a plurality of optical transmitters (transponders) for outputting the optical signals from the first output terminals of said at least one optical switch to the first optical transmission routes corresponding to said first output terminals;
- a plurality of optical selectors (i.e. means for receiving) each for receiving a plurality of optical signals from second output terminals of said at least one optical switch, selecting any one of the optical signals from the second output terminals, and outputting said selected signal to the second optical transmission route corresponding to said second output terminals; and
- a control circuit (not shown; see Paragraph [0126] and [0150]) for setting each route of an optical signal in said optical switch;

Art Unit: 2874

- wherein each optical signal received from a second optical transmission route is split into a plurality of optical signals through the effect of one of said optical distributors and said plurality of optical signals are outputted to corresponding first different optical transmission routes through a plurality of routes set in said optical switch, and
- as to the optical signal to be outputted to said one second optical transmission route, when a plurality of routes are set to said optical switch and a plurality of optical signals are received from said plurality of first different optical transmission routes, the optical selector for the one second transmission route selects one of said plurality of optical outputs it to said one second optical transmission route.

9. Regarding claims 3 and 4, wherein when the output destination of the optical signal received from any one of said plurality of first transmission routes corresponds to any one of said plurality of first optical transmission routes, the route through the at least one optical switch corresponding to the first optical transmission route where said optical signal is to be outputted is set to said at least one optical switch and the optical signal is outputted thereto. For example, see Paragraphs [0101].

10. Regarding claims 5 and 6, wherein said at least one optical switch comprises a plurality of optical switches 20(0) and 20(1), and the optical signal received from a respective second optical transmission route and the optical signal to be outputted to said second optical transmission route are routed to the different optical switches so as to output the split optical

Art Unit: 2874

signals to the first different optical transmission routes and receive optical signals from the first different optical transmission routes. For example, see Paragraphs [0102].

11. Regarding claims 7 and 8, wherein when the output destination of the optical signal received from any one of said plurality of first transmission routes corresponds to any one of said plurality of first optical transmission routes, the route corresponding to the first optical transmission route where said optical signal is to be outputted is set to any one of said optical switches and said optical signal is outputted thereto. For example, see Paragraphs [0101].

12. Regarding claim 9, Ibukuro et al. discloses a method of using an optical switching equipment ONPE for switching a route of an optical signal received from any one of a plurality of first optical transmission routes (e.g. east/west routes) and second optical transmission routes (e.g. add routes) and outputting the optical signal to any one of a plurality of third optical (e.g. east/west routes) transmission routes, and a plurality of fourth optical transmission routes (e.g. drop routes), comprising the steps of:

- switching the routes of at least two optical signals respectively received from different first optical transmission routes for one of said fourth optical transmission routes (i.e. drop routes);
- selecting one of said at least two optical signals for which routes have been switched for said one of said fourth optical transmission routes;
- outputting the selected one optical signal to said one of said fourth optical transmission routes;
- splitting an optical signal received from any one of said second optical transmission routes (i.e. add routes) into at least two optical signals;

Art Unit: 2874

- switching the routes of the at least two split optical signals for different third optical transmission routes, respectively; and
- outputting the at least two split optical signals for which routes have been switched to said different third optical transmission routes.

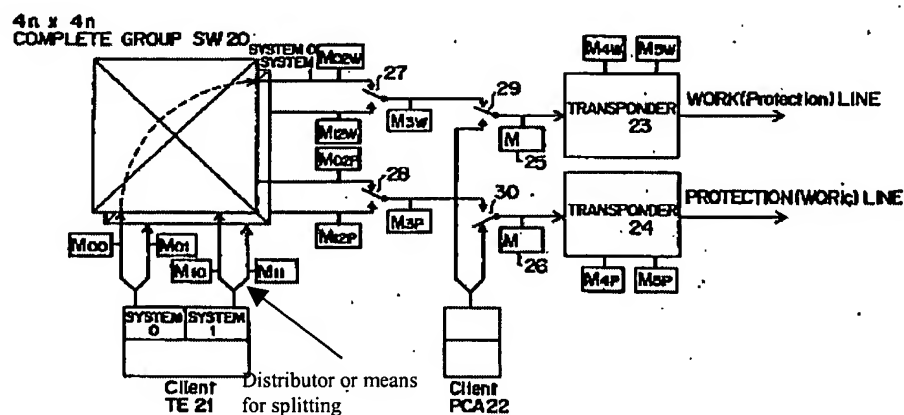
See Paragraphs [0101]-[0103], [0110] and [0158].

13. Regarding claim 12, Ibukuro et al. discloses an optical transport network comprising a plurality of optical switching equipments (i.e. nodes) connected with a plurality of optical transmission routes and for transmitting or receiving optical signals between said optical switching equipments, each of said optical switching equipments comprising:

- first interfaces for transmitting or receiving the optical signals to or from another optical switching equipment through a plurality of first optical transmission routes (traveling east/west),
- second interfaces for transmitting or receiving the optical signals to or from communicating equipment (e.g. 15-1) connected with said optical switching equipment through a plurality of second optical transmission routes,
- at least one optical switch 20 for providing a route of each of said optical signals between said first interfaces or between one of said first interfaces and one of said second interfaces; and
- a control circuit (not shown, see Paragraphs [0126] and [0150]) for setting the routes of the optical signals inside said at least one optical switch; wherein:
- in the case of adding an optical signal received from a second optical transmission route into said optical transport network, said received optical

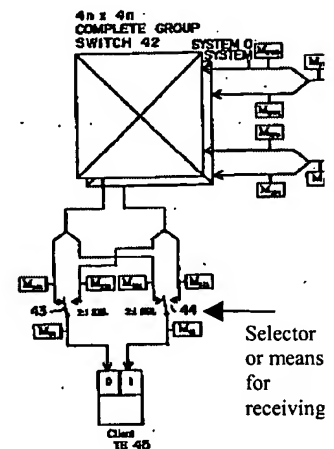
Art Unit: 2874

signal is split into a plurality of optical signals at one of said second interfaces, and the respective split optical signals are transmitted to different optical switching equipments via the different routes in said at least one optical switch and different first optical transmission routes respectively connected to the different switch routes,



in the case of dropping an optical signal received from said optical transport network to a second optical transmission route, different routes in said optical switch are set for a plurality of optical signals received from different optical switching equipments via different first optical transmission routes to one of said second interfaces, and said one of said second interfaces selects one optical signal to output,

in the case of relaying an optical signal inside said optical transport network, an optical signal received from one of said plurality of first transmission routes



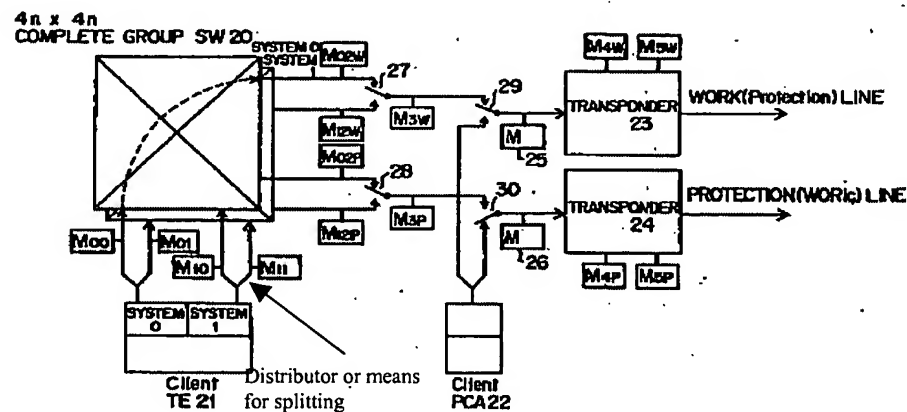
Art Unit: 2874

is output to a destination first optical transmission route through a route set in said optical switch.

See Paragraphs [0101]-[0103], [0110] and [0158].

14. Regarding claim 15, Ibukuro et al. discloses an optical switching equipment ONPE for switching a route of an optical signal received from any one of a plurality of optical transmission routes and then outputting said optical signal to any one of said optical transmission routes, comprising:

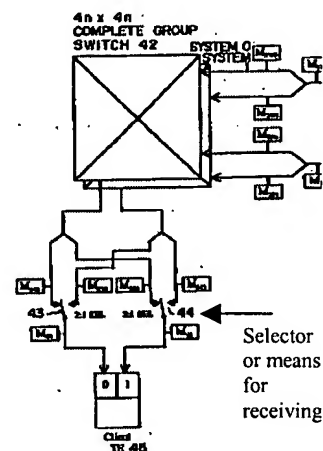
- a plurality of optical receivers (transponders) for receiving optical signals from a plurality of first optical transmission routes;
- a plurality of optical distributors (i.e. means for splitting) for receiving optical signals from a plurality of second optical transmission routes and distributing received signals as a plurality of optical signals;



- at least one optical switch 20 provided with a plurality of input and output terminals respectively and for switching the optical signal received at any one of said input terminals from an optical receiver or an optical distributor into any one of said output terminals and then outputting said optical signal thereto;

Art Unit: 2874

- a plurality of optical transmitters (transponders) for outputting the optical signals at first output terminals of said optical switch to the first optical transmission routes corresponding to said first output terminals;
- a plurality of optical selectors, each for receiving a plurality of second optical signals from second output terminals of said optical switch, selecting any one of the optical signals from the second output terminals, and outputting said selected signal to the second optical transmission routes corresponding to said second output terminals; and
- a control circuit (not shown, see Paragraph [0126] and [0150]) for setting the route of the each optical signal inside said at least one optical switch.



See Paragraphs [0101]-[0103], [0110] and [0158].

15. Regarding claim 16, Ibukuro et al. discloses an optical switching equipment for switching the route of an optical signal received from any one of a plurality of optical transmission routes and then outputting said optical signal to any one of a plurality of optical transmission routes, comprising:

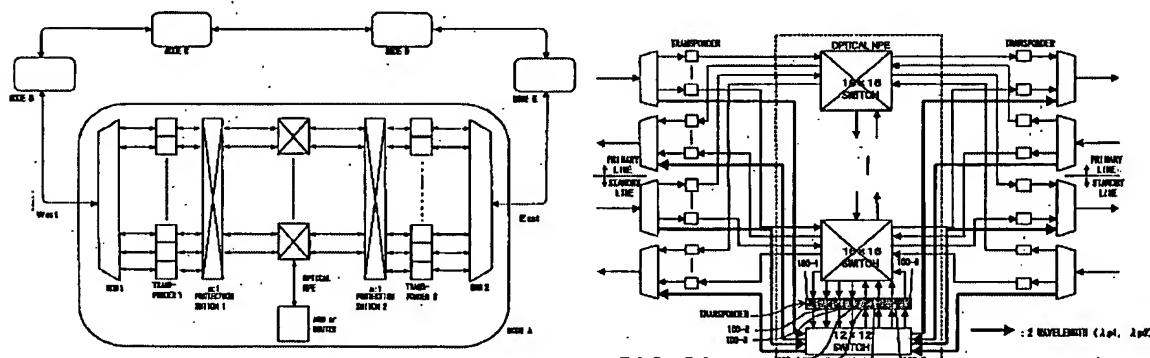
- a plurality of optical receivers (i.e. transmission line/fibers) for receiving wavelength-multiplexed optical signals from a plurality of first optical transmission routes;
- a plurality of optical demultiplexers (e.g. WDM 71-1) for demultiplexing said wavelength-multiplexed optical signals into respective frequency signals;

- a plurality of first optical signal adjusters (i.e. transponders) for converting the frequency of and adjusting the level of optical signals outputted from said optical demultiplexers;
- a plurality of optical distributors (i.e. means for splitting) for receiving optical signals from a plurality of second optical transmission routes and distributing each optical signal received from a second optical transmission route as a plurality of optical signals;
- at least one optical switch 20 provided with a plurality of input and output terminals respectively and for switching any one of the optical signals from said optical signal adjusters and from said optical distributors received at any one of said input terminals to any one of said output terminals;
- a plurality of second optical signal adjusters (i.e. transponders) for converting the frequency and adjusting the level of the optical signals outputted from said at least one optical switch;
- a plurality of optical multiplexers (e.g. WDM 72-1) for multiplexing the outputs of a plurality of the second optical signal adjusters into wavelength-multiplexed optical signals;
- a plurality of optical transmitters (i.e. transmission line/fiber) for outputting the wavelength-multiplexed optical signals from said optical multiplexers to the first optical transmission routes;
- a plurality of optical selectors (i.e. means for receiving), each for receiving a plurality of optical signals from the outputs of a plurality of second optical

signal adjusters, selecting an optical signal, and outputting said selected optical signal to said a respective second optical transmission route; and

a control circuit (not shown, see Paragraph [0126] and [0150]) for setting the routes of the optical signals in said at least one optical switch.

See Paragraphs [0101]-[0103], [0110] and [0158] and Figures 6, 16, 51 and 52.



Response to Arguments

16. Applicant's arguments with respect to claims 1-9, 12, 15 and 16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,697,546 is the parent application to the Ibukuro et al. reference relied upon in the rejection above.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

Art Unit: 2874

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


sus


AKM ENAYET ULLAH
PRIMARY EXAMINER